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університет імені Лесі Українки*СУЧАСНИЙ СТАН ТА ПЕРСПЕКТИВИ ІННОВАЦІЙНОГО
РОЗВИТКУ ПРОМИСЛОВОСТІ УКРАЇНИ

Formulation of the problem. Modern conditions for the Ukrainian economy development are largely determined by the state and level of industrial development and the scale of its innovative potential use, which provides the necessary level of competitiveness in a changing environment. The industrial complex, as a rule, is the basis of the economy, the most active part of the economy, and the multiplier of the other industries development. Proper organizational and economic governance brings coordination and focuses on the ongoing qualitative structural changes and social and economic transformations. However, the development of the Ukrainian industry in recent years has been chaotic, without defining and adhering to state priorities, in the absence of a well-thought-out state industrial policy. This proves the need for an in-depth study of the current state of the Ukrainian industry and its further development on the basis of innovation.

Analysis of recent research and publications. The following scientists made a significant contribution to the study of issues related to the peculiarities of the development of Ukrainian industry in modern conditions and the analysis of social and economic indicators of its functioning in terms of certain activities of mining and processing: Andriushchenko I. Ye., Grunyk I. S., Deineko L. V., Kazachkov I. O., Kondratenko N. O., Lehenkyi M. I., Ostapiuk B. Ya., Stiempen O. V, Chukurna O. P and others. At the same time, the presence of problems and negative trends in the functioning of Ukrainian industry proves the objective need to study issues related to the analysis of the current state, determining the causes and substantiation of the intensification of its innovative development.

Setting objectives. The purpose of the study is to analyse the Ukrainian industry development trends and identify ways to solve existing problems based on the intensification of innovation processes. The main objectives of the article are: to reveal the role of industry in the development of the country's economy; identification of trends in the main indicators of its operation; analysis of the structure of Ukrainian industry; substantiation of directions of further development on the basis of innovation.

Presentation of the main research material. Industry is a complex, hierarchically organized system of production units: enterprises, corporations, their branches and alliances, and others [1]. As the most important structural link of the Ukraine economic complex, industry forms the foundation of social and economic development. It accounts for 1/3 of fixed assets and more than 14% of the population employed in the national economy, the volume of sold industrial products in 2019 amounted to 2480.8 billion UAH (Fig. 1).

At the same time, in recent years there has been a steady trend of shrinking the economic role of industry. Its share in GDP decreased from 75.34% in 2014 to 62.42 in 2019, which was mainly due to a reduction in manufacturing.

Among the negative factors that caused the decline in industrial production along with outdated technologies and equipment, low activity of innovation processes, lack of proper industrial development strategy in the general economic and political instability in the country should be noted the negative impact on Ukraine's industrial potential occupation and annexation of industrial regions. Donbass and Crimea, the curtailment of production in the territories not controlled by the Ukrainian authorities and adjacent territories,

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trade war against Ukrainian exports, which led to the destruction of industrial capacity, the rupture of traditional internal and external economic ties [2].

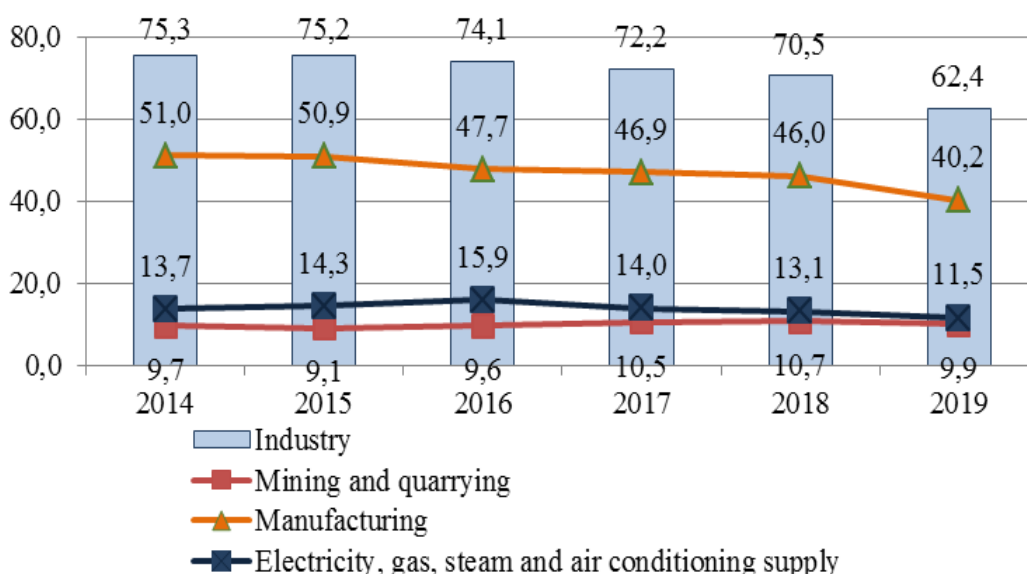


Fig. 1. The share of the main types of economic activity in the GDP of Ukraine in 2014–2019, %

Source: calculated by the author according to the State Statistics Service of Ukraine [3]

The key industry is processing. Today it owns 64% of the total structure of sold industrial products in Ukraine (Fig. 2).

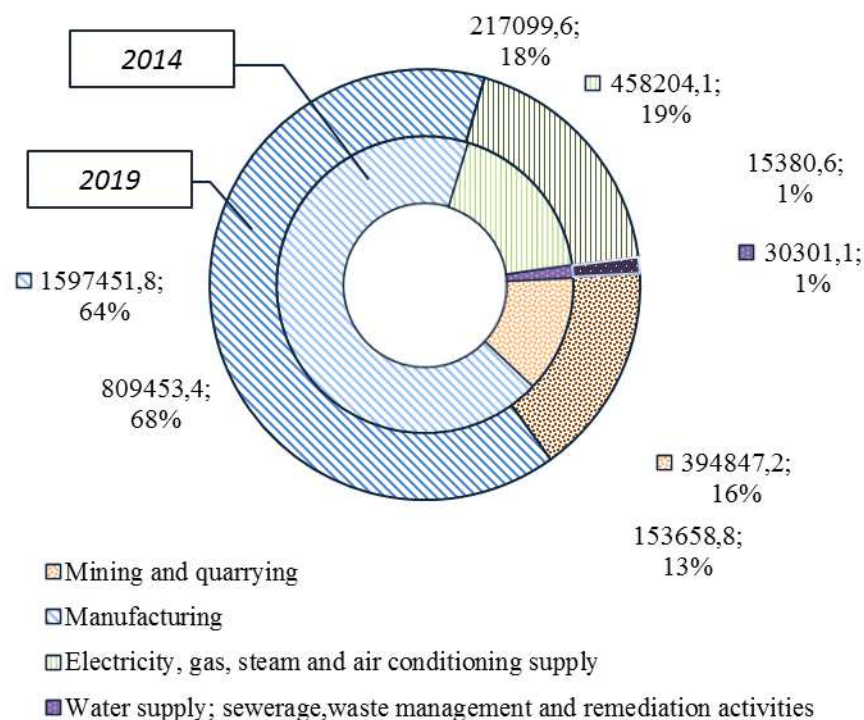


Fig. 2. Structure of industrial production in 2014 and 2019, UAH million, %

Source: developed by the author according to the State Statistics Service of Ukraine [3]

In 2019, domestic processing enterprises produced and sold UAH 369 billion of value added, or 40.19% of GDP, which is much higher than in a number of European countries. In particular, the share of the processing industry ranged from 9-10% in Great Britain and Greece to 18-22% in Germany, Ireland and Central Europe (Slovenia, Slovakia, Poland, the Czech Republic, Romania, and Hungary). However, the role of industry in Ukraine was smaller than in China, Korea and some other Asian countries [4].

It should be noted that the GDP in the industry of Ukraine is formed mainly in low-tech industries, such as the food industry and the mining and metallurgical complex. At the same time, in the structure of the

processing industry, the largest share is occupied by the production of food, beverages, and tobacco products, the share of which has not changed for the period 2014-2015, ranging from 22.8 to 20.1%. Metallurgical production occupies the second position, at the end of 2019 it accounted for only 15.7%, while the production of food, beverages, and tobacco – 22.4%.

Considering the reasons for the decline in metallurgical production, we support the opinion of scientists [5], who note that the metallurgical market is too focused on foreign markets, while the production uses the outdated technological base, which causes significant energy consumption of domestic industrial production for 35%.

Similarly, to metallurgical production, the share of mechanical engineering in the structure of the industry is decreasing. Thus, in 2014 the share of sold mechanical engineering products in the total volume of sold industrial products was 19.03%, and in 2019 – 15.9%. Other types of industrial activity for the period 2011-2015 did not change significantly (Table 1).

Table 1

The share of processing industry,

in % to the total volume of sold industrial products

Production	2014	2015	2016	2017	2018	2019
Manufacture of food products, beverages and tobacco	21,33	22,77	21,59	20,95	20,10	21,4
Manufacture of wood products, paper production and printing	3,36	3,54	3,43	3,26	3,42	3,4
Manufacture of coke, refined petroleum products	3,68	3,41	3,32	1,53	3,88	2,9
Manufacture of chemicals and chemical products	3,92	4,14	3,18	2,75	2,73	2,9
Metallurgical production. Manufacture of fabricated metal products, except machinery and equipment	19,03	17,82	17,14	18,17	18,49	15,9
Mechanical engineering, except for repair and installation of machines and equipment	7,87	6,93	6,59	6,99	7,26	7,6
Other manufacturing	8,52	9,02	9,14	11,39	9,36	10,3

Source: calculated by the author according to the State Statistics Service of Ukraine [3]

The decline in industrial production in general, and especially the products of the processing industry, causes the lag and weakening of the national economy, the loss of Ukraine's competitive position in world markets. The problems of the industry are nationwide. There is a threat to the technological security of the country, which requires the development of a system of measures aimed at transforming the industrial complex into a state that meets the needs of the country's development [8].

The role of industry as a major driver of economic growth is now recognized by both developed and developing countries. Presented in Fig. 3 data clearly demonstrate the close link between economic growth and industrial development in Ukraine.

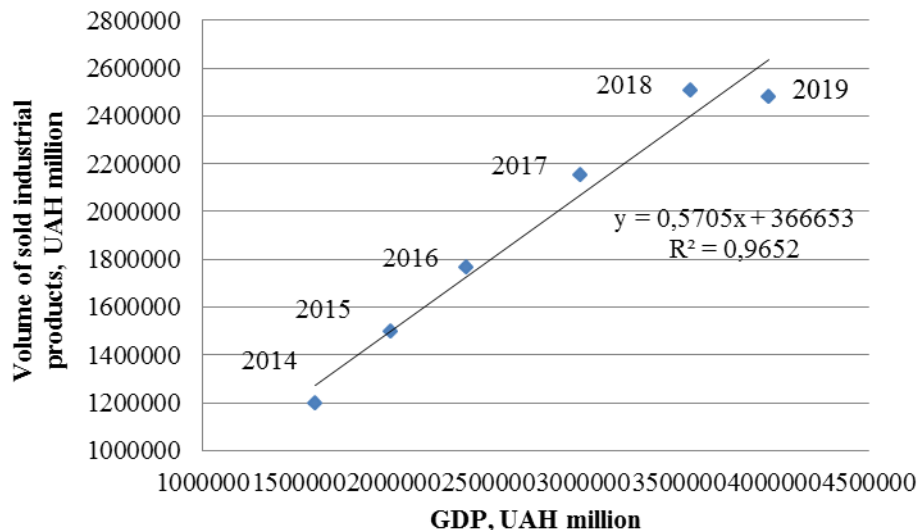


Fig. 3. Correlation field of dependence of GDP and industrial production

Source: developed by the author according to the State Statistics Service of Ukraine [3]

Dynamic changes that have covered almost all spheres of public life today require progress in the implementation of socio-economic transformations with a focus on the innovative development principles,

effective use of scientific, technical and intellectual potential, the introduction of the knowledge economy and information society development [5]. Ukrainian industry is trying to make more active use of market management mechanisms, to diversify production. The largest share of innovations is introduced by enterprises of aircraft construction, medical, shipbuilding, glass, electrical industry, chemical, agricultural engineering and metallurgy. The most common area of innovation is product renewal.

However, today in Ukraine there is a state policy formed on a low-tech basis. The issues of increasing production productivity and quality of industrial products, obtaining high-tech products with high added value, which can ensure the development of the processing industry on the basis of active innovation, remain relevant. The situation is aggravated by the lack of strategic innovation management, lack of institutional support for innovation, low demand for innovation, and low motivation of participants in innovation processes [7]. The Ukrainian economy lags far behind the development of the world's leading countries in terms of its material, resource, and energy intensity. All this is reflected in the level of competitiveness of Ukrainian producers.

The above proves the need for the formation of a mechanism for managing the innovative development of industry on the basis of scientifically sound approaches that will improve its condition, efficient use of resources, and increase the competitiveness of domestic products [1].

Further development of industry and introduction of innovations should be consistent with the goals of sustainable and inclusive development, which includes: full use of labour potential, poverty reduction, and its consequences, development of social inclusion, elimination of regional disparities [9].

An urgent task today is the transition to completely new principles of industrial operation, the implementation of which would preserve the environment to improve the welfare and quality of life. The objective necessity is the introduction of environmentally friendly industrial production, the greening of the entire economic system of the state, and the expansion on this basis of international economic and environmental cooperation [10].

One of the ways to overcome the negative trends and intensify the development of industry in Ukraine is to establish cross-border cooperation within which economic, trade, and scientific ties are maintained and developed, contributing to the dynamic development of industries and active innovation [11]. Using the opportunities for cross-border cooperation creates conditions for the rational use of natural and labour resources, accelerated development of advanced technologies, renewal of fixed assets and product range, environmental protection.

New sources of financial resources are needed to get the Ukrainian industry out of the crisis and increase its efficiency, so it is important to provide tax incentives for investment, attract foreign investment in industrial development, as well as provide tax benefits to businesses that innovate [12].

Today, state support for the industry in Ukraine is rather insignificant. In particular, the budget allocates funds for the restructuring of the coal industry, the elimination of mines and rescue measures, reimbursement of agricultural machinery. There are separate tax benefits for the shipbuilding and aircraft industries (for the payment of corporate income tax, excise duties on fuel and VAT). In particular, until January 1, 2025, the profits of aircraft companies are exempt from taxation. Other support measures included instalments on VAT on imports of production equipment, which is designed to promote the domestic industry development.

Public policy should stimulate the increase of the technological level of production in Ukraine, in particular through the introduction of Industry 4.0, which provides a combination of modern information and communication technologies (ICT) with industrial production. Industry 4.0 is seen as the next stage of the third industrial revolution, the implementation of which is still ongoing in many countries around the world (including Ukraine). At the same time, in addition to computerization and automation, important elements of the new type of production are cyber-physical systems, artificial intelligence, 3D printing, technologies and methods of analysis of information that cannot be processed by classical methods due to its huge volume (big data), etc. In this context, the evolution of the business models themselves becomes relevant. In recent years, the world has been rethinking how companies do business. Horizontal and vertical IT integration, a combination of different technologies, the creation of new cyber systems, and artificial intelligence are changing business models and ways of doing business.

The Industry 4.0 model implementation is a coordinated, state initiative to mobilize all national resources in order to accelerate technological change. Definitely this term refers to technologies in production, i.e. – industrial sectors. However, technology is used everywhere, so over time, the term becomes more general, beyond industry, to urban infrastructure (Smart City), education, health, and so on.

This necessitates increasing the role of the state in regulating the processes of innovative development of industry and strengthening their resource and infrastructure. This necessitates the introduction of effective interrelated measures of state and regional industrial policies, the development of a strategy for the development of the Ukrainian industry, taking into account the European experience of providing state aid to industries.

Conclusions from the conducted research. Thus, current trends in industrial development are characterized by a decline in production, which is mainly due to the curtailment of the processing industry. This causes a loss of markets for Ukrainian producers, a decrease in domestic and external demand, lagging

behind and weakening the economy, the loss of Ukraine's competitive position in world markets.

Negative changes are also taking place in the structure of industry. The share of low-tech industries is increasing with a significant decrease in medium-tech and moderate – high-tech.

Industry forms the foundation of the social and economic development of the country, which is proven on the basis of the correlation between industrial production and GDP dynamics. However, the Ukrainian economy lags far behind the development of the world's leading countries in terms of its material, resource, and energy consumption, which is reflected in the quality and competitiveness of industrial products.

The issue of industrial development based on the intensification of innovation processes in Ukraine requires radical changes in reforming the innovation processes management mechanisms and relations between science, society, business, and government to intensify investment activities, support the industry technological development, the introduction of environmentally friendly production.

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